Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
An Allocation of Spectrum for the	)	
Private Land Mobile Radio Services	)	**RM-9267**

To: The Commission

COMMENTS OF UTC IN SUPPORT OF LMCC PETITION FOR RULE MAKING

Pursuant to Section 1.405 of the Federal Communications Commission's (Commission) Rules, UTC, The Telecommunications Association (UTC), hereby submits its comments in support of the *Petition for Rule Making* concerning an allocation of spectrum for private mobile radio services filed by the Land Mobile Communications Council (LMCC). The LMCC *Petition* presents a reasoned and workable method for addressing the desperate need for additional spectrum for private wireless users, and the Commission should expeditiously initiate a rule making proceeding to develop the necessary framework to implement the LMCC proposal.

I. Introduction

UTC is the national representative on communications matters for the nation's electric, gas, water and steam utilities, and natural gas pipelines: UTC also represents other organizations that use communications to support essential public service obligations. UTC's members range in size from large combination electric-gas-water utilities which serve millions of customers, to smaller, rural electric cooperatives and water districts which serve only a few thousand

customers each. Serving on UTC's Board of Directors are representatives from the following associations:

- American Gas Association
- American Public Power Association
- American Water Works Association
- Association of Edison Illuminating Companies
- Edison Electric Institute
- Interstate Natural Gas Association of America
- National Rural Electric Cooperative Association

UTC also serves as a member of the LMCC and worked with that organization to develop and refine the *Petition.* UTC is therefore pleased that the Commission has offered this opportunity for UTC to provide its comments on the *Petition.*

II. UTC Supports An Allocation of Spectrum for Private Mobile Radio Services

UTC fully supports the LMCC proposal to allocate spectrum to meet the needs of private wireless users. These users include almost every industry in the US, including utilities and pipelines. A general allocation of spectrum for private use would permit these users to continue to operate reliable, cost-effective radio systems in support their core businesses and to protect these industries' important contributions to the US economy.[1]

UTC agrees with LMCC that the needs of the private radio community have been overshadowed by consumer-based wireless services in recent years.[2] The advent of spectrum auctions in the Omnibus Budget Reconciliation Act of 1993 established a bias in favor of new

[1] For many years, UTC has been aware of the need for additional private spectrum. In 1993, UTC participated in the Coalition of Private Users of Emerging Multimedia Technologies (COPE) petition for an allocation of spectrum for Advanced Private Communications Services (APCS).

[2] LMCC *Petition*, ¶4.

commercial service licenses that could be auctioned to raise revenue, and against private services whose contributions to the US economy were less apparent, though undoubtedly more substantial. As a result, the private wireless community lost access to numerous bands of spectrum as these bands were reallocated for auctionable commercial licenses and as congestion on private frequencies grew.

A. Congestion on Existing Spectrum Is Choking Private Radio

As the LMCC *Petition* correctly notes, there is substantial congestion on current spectrum allocations. In the private bands below 800 MHz, frequency congestion has prevented many users from deploying new systems or expanding existing systems in or around urban areas. As the frequency coordinator for the Power Radio Service frequencies, UTC has encountered numerous examples in which it was unable to recommend a Power Radio Service frequency in an urban area.

UTC also agrees with LMCC that the refarming of the private bands below 800 MHz will provide only limited relief to the congestion problem. While the Commission's well-intentioned channel narrowbanding mechanism will result in the availability of more channels, it will not substantially increase the number of available channels in the near term. More importantly, the refarming initiative may threaten the use of the PLMR bands below 800 MHz for certain operations. As currently structured, the refarming of the PLMR bands will likely degrade the quality of the communications in these bands, jeopardizing the public-safety related communications of entities such as utilities, pipelines and railroads. These entities may find it

inadvisable to deploy new systems in these increasingly congested bands.[3]

In the 800 and 900 MHz bands, congestion is also a problem. In most urban areas, there is little or no spectrum available for private systems in these bands. Part of this lack of availability is due to the success of these bands for private use; users migrated from the lower PLMR bands in order to deploy more advanced and spectrally efficient trunked systems. The introduction of auctions in these bands has also expedited the depletion of these channels for private use. In the 800 MHz band, for example, private users have lost access to the General Category frequencies, which are being reallocated for commercial use via auctions.

Of course, the lack of available spectrum has not simply hampered the deployment of existing private radio applications, it has prevented the deployment of newer and more advanced applications. Private users have been unable to take advantage of new technologies which require access to broadband channels, including remote computer interfaces, slow scan video transmission and telemetry operations to monitor, signal and control automated operations.[4] These technologies will permit private wireless users to function more efficiently and meet important operational requirements, while enhancing the competitiveness of US businesses.

B. Commercial Systems Cannot Meet All the Needs of Private Wireless Users

UTC agrees with LMCC that many private users cannot rely on commercial carriers to satisfy their communications needs. [5] Utilities and pipelines, for example, have unique operating

[3] UTC also urges the Commission to consider solutions independent of this rulemaking to address the concerns of utilities, pipelines and other public safety-related entities in the bands below 800 MHz.
[4] LMCC *Petition*, ¶44.
[5] LMCC *Petition*, ¶¶53-66

characteristics that make it difficult, and in many cases impossible, for them to take service from commercial providers.

Availability. Utilities' and pipelines' critical operations require them to have extremely reliable access to spectrum, exceeding 99.999% availability for some applications.

Control. Utilities and pipelines must retain control of essential communications to ensure reliability and security. Such control is particularly important during natural disasters when commercial networks often fail.

Services/Functionality. Some of the communications applications deployed by utilities and pipelines are not possible over commercial systems. Commercial systems also generally do not provide functions such as priority access that are needed by utilities and pipelines.

Service Territories. Utility and pipeline service territories may extend into areas unserved by commercial providers, making it impossible for them to take service from a commercial provider. Utility and pipeline service territories may also encompass areas served by networks using different communications technologies, making it impossible to establish seamless service throughout the service territory.

C. New Private Spectrum Should Be Licensed on a Site-By-Site Basis

UTC supports the licensing of new private spectrum on a site-by-site basis, rather than on pre-determined geographic basis. Site-by-site licensing better permits the Commission to meet the disparate needs of private users. Even within an industry, the communication needs are diverse. For example, the communications service territories of utilities range in size from small rural areas of only a few square miles to territories covering thousand of square miles in several states; no pre-determined geographic license could possibly meet the needs of all utilities.

UTC also agrees with LMCC that frequency coordinators could play a significant role in the licensing of this new private spectrum.[6] Coordinators have proven their usefulness in promoting efficient use of spectrum, in preventing interference and in resolving potential

[6] LMCC *Petition*, ¶96.

coordination problems. UTC would be willing to assist the Commission in the licensing of this new spectrum and in fulfilling its statutory mandate to "continue to use engineering solutions, negotiations, threshold qualifications, service regulations, or other means in order to avoid mutual exclusivity in application and licensing proceedings."[7]

Site-by-site licensing also avoids the problems that may be associated with the introduction of mutually exclusive applications in bands that are used by both auctionable and non-auctionable services. Under current statutory authority, the FCC is not permitted to auction licenses for use by certain private services, including police, fire, utilities, pipelines, railroads and other "public safety radio services."[8] If pre-determined geographic license areas were established for the new private bands, auctionable and non-auctionable services could submit mutually-exclusive applications for the same license; this situation would force the Commission to choose between obeying one statutory mandate (auctioning mutually exclusive applications for non-exempt services) or another (exempting public safety radio services from auctions). The use of site-by-site licensing would prevent the filing of mutually exclusive applications and avoid the use of auctions in this band, thereby eliminating this potentiality.[9]

III. The Spectrum Identified by LMCC Would Meet the Needs of Private Wireless Users

UTC supports the recommendation of LMCC that 15 MHz of spectrum be allocated for private wireless users by the year 2000 and that additional spectrum be reallocated to meet the

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[7] Communications Act of 1934 (as amended), §309(j)(6)(E).

[8] Balanced Budget Act of 1997, §3002(a)(2).

[9] UTC was disturbed by the views expressed by one Wireless Telecommunications Bureau official at an industry function that the LMCC *Petition* did not explain why shared spectrum could not be auctioned. It is clear that the

future needs of the private community.[10] As explained above, there is growing congestion in the existing PLMR bands. An allocation of spectrum is necessary to meet the immediate needs of users that are unable to locate spectrum for new private systems. Access to new bands may also relieve the pressure on the most heavily used bands by permitting some users to relocate their systems to the new bands.[11]

A. Evolving Utility and Pipeline Radio Systems Will Require Additional Spectrum

UTC recognizes that the spectrum needs of utilities and pipelines are evolving. To this end, UTC has undertaken an analysis of these needs to determine: (1) whether the need for spectrum to meet existing operational requirements of utilities and pipelines is increasing; (2) whether there are new radio applications that utilities will implement in the next ten years; and (3) how much additional spectrum, if any, is needed for these applications. UTC established its Utilities Spectrum Assessment Taskforce (USAT) in April of 1997 and is finalizing the results of its year-long analysis, which will be announced in the near future.

UTC's analysis of future spectrum needs is based on a three-tiered view of existing utility and pipeline spectrum use. The first tier involves those private communications services that are currently met by private utility and pipeline communications systems, but which might be satisfied by existing or emerging commercial providers. While it is clear that many utility and pipeline applications require private systems due to unique operational characteristics (as

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Commission's statutory authority does not permit the auctioning of non-mutually exclusive applications, and that Congress clearly intends for the Commission to continue to take steps to avoid mutual exclusivity in licensing.

[10] LMCC *Petition*, ¶67.

explained above), this is not the case for all applications. Non-critical corporate communications will continue to be displaced from private communications networks to commercial providers. The future private needs of utilities and pipelines must account for this increase in the use of commercial systems.

The second tier of utility and pipeline communications involves important business and industrial applications that, due to operational requirements, cannot be carried by commercial providers. These services are important to the utility and pipeline industries as businesses. This second tier is shared in common by all private wireless users and is the reason for the LMCC spectrum allocation proposal.

UTC's analysis also focuses on the need for spectrum beyond traditional "industrial uses." The third tier is not shared by all private wireless users, but rather only by those critical public safety-related services such as police, fire, utilities, pipelines and railroads. This tier of service involves applications that are related to the public safety nature of these entities. In the case of electric utilities, for example, this tier of services includes those applications that are necessary to the protection of the electric grid; for water utilities, it involves those communications necessary to ensure the safety of the nation's water supply; for natural gas pipelines, it involves those radio services that permit the safe transport of natural gas throughout our nation. Specific examples include the use of mobile radio by utilities to coordinate service restoration during and following emergency situations (*e.g.*, downed power lines or damaged gas

[11] In this way, access to new spectrum may also facilitate the refarming of the bands below 800 MHz. As existing users move off their 25 kHz wideband systems to the new private spectrum, it will be possible to accommodate more narrowband (12.5 or 6.25 kHz) systems in these bands.

mains) or for nuclear plant security and emergency response capabilities and hydraulic dam flood warning sirens and alarms. Other public safety uses include the use of SCADA systems by water companies to prevent the loss of system integrity from sources such as pump failures and aging infrastructure, and the use of communications systems by natural gas company personnel to monitor and control gas pressure within pipelines and to control shut-off valves in cases of emergency. Numerous other examples exist as well.

UTC's USAT report is intended to focus on this third tier of spectrum usage, quantifying the spectrum needs of utilities and pipelines for their critical operations through the year 2010. Drawing on a combination of original survey data, projections from historical data and the methodology from the Public Safety Wireless Advisory Committee (PSWAC) process, the USAT report projects utility and pipeline communications needs while taking into account the conversion of some private applications to commercial systems (tier one communications) and the advent of new spectrally-efficient technologies. The report demonstrates that 92% of utilities believe that their internal communications systems will be more heavily used in the next ten years. Eighty-eight percent (88%) expect to need additional spectrum to meet internal needs. Over that same period, 46% expect to implement new wideband data systems.

Utilities and pipelines require access to additional spectrum. The LMCC *Petition* is an important step in satisfying the needs of these entities for their internal communications systems.

B. 1427-1432 MHz Band Would Be Ideal for Utility Meter Reading Band

LMCC has suggested the reallocation of part or all of the 1427-1432 MHz band from the

Federal government for private use. UTC is aware that at least part of this band is currently licensed on a nationwide basis for a utility meter reading system. It is not UTC's intention in participating in the LMCC *Petition* to displace existing operations that are benefiting the private community. In light of the existing beneficial use of this band and because of pre-existing conditions that would likely make this band unsuitable for high power and/or mobile operations, UTC recommends that the Commission consider restricting the use of this band to meter reading and similar fixed telemetry applications.

WHEREFORE, THE PREMISES CONSIDERED, UTC requests the Federal Communications Commission to take action in accordance with the views expressed in these comments.

Respectfully submitted,

UTC, The Telecommunications Association

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CERTIFICATE OF SERVICE

I, Thomas Goode, do hereby certify that I have caused to be sent, this 1st day of June, 1998, by first class mail, postage prepaid, copies of the foregoing to the following:

Land Mobile Communications Council
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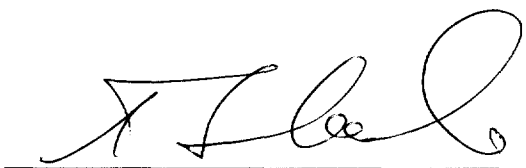

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